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REMARKS

Applicants wish to thank the Examiner for considering the present application. Claims 1-19 are pending in the application. Claims 12-17 stand allowed. Applicants respectfully request the Examiner for a reconsideration of the rejections.

Claim 7 stands objected to for the use of "multiplexer/demultiplexer." Claims 7 and 8 have been amended to overcome this rejection by reciting "multiplexer and demultiplexer."

Claims 1, 5, 9-11, and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Gross* (6,507,739) in view of *Hansen* (5,361,074). Applicants respectfully traverse.

Claim 1 is directed to a communications system that includes a stratospheric platform that has a payload controller and a phased array antenna that has a plurality of main array elements AND a plurality of auxiliary elements for canceling interference. Claim 1 recites that the interference canceling is between side lobes of the plurality of communication beams. The *Gross* reference teaches an aircraft 210 that provides communication channels to cellular communication units. The Examiner cites column 5, lines 10-22 in *Gross* for teaching a gateway station scaling the plurality of elements to form a plurality of beams and auxiliary element output, and for teaching that the gateway station communicates a control signal to the stratospheric platform to communicate a scaling of elements to form the communication beams and the auxiliary element output. Applicants have reviewed this passage and can find no teaching or suggestion for scaling the plurality of elements to form a plurality of beams and an auxiliary element output. In fact, the *Gross* reference does not teach or suggest auxiliary elements. Therefore, it is not possible for the *Gross* reference to teach "said gateway station scaling the plurality of elements to form a plurality of beams and auxiliary element output." Furthermore, although the column 5 passage teaches sending control messages to devices within the airborne or terrestrial segments of the network, no teaching or suggestion is provided for

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communicating a control signal to the stratospheric platform to communicate a scaling of elements.

Claim 1 also recites that the gateway station scales a plurality of elements to form a plurality of beams and auxiliary output. The gateway station communicates a control signal to the stratospheric platform to communicate a scaling of elements to form the communication beams and the auxiliary element output.

The Examiner agrees that *Gross* does not specifically disclose a plurality of auxiliary elements for canceling interference from the side lobes of the communication beam. The Examiner then cites the *Hansen* reference for this teaching. However, Applicants have reviewed the *Hansen* reference and find several differences. For example, the *Hansen* reference teaches an omni-directional antenna (or antennas) (not phased array) that is used together with the radar antenna (also not a phased array) for canceling interference. It should be noted that the *Hansen* reference is used for canceling interference on a *received* beam at the radar site. Also, there is no teaching or suggestion for the use of the canceling system in *Hansen* on a stratospheric platform. Also, there is no teaching or suggestion for auxiliary elements of a phased-array antenna. Rather, the *Hansen* reference merely teaches an additional omni-directional antenna used together with the main radar antenna.

Another difference from the *Hansen* reference is that the present application controls the auxiliary elements from the ground by communicating a scaling of elements to form the communication beams and the auxiliary element output. The Examiner cites column 1, lines 30-35 of *Hansen* for teaching a plurality of auxiliary elements for canceling interference from the side lobes of the plurality of the communication beam. As mentioned above, there are numerous differences between the *Hansen* reference and the present application. Applicants do agree that an Omni-directional antenna is used in addition to a radar antenna for removing interference

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signals which enter the side lobe response of a radar system. Contrary to the Examiner's statement in the second-to-the-last line of page 2 of the January 12, 2007 Office Action, in no way do Applicants admit that a phased array antenna with main array elements and auxiliary elements exists in the Hansen reference. Because of the numerous differences, Applicants therefore respectfully request the Examiner for reconsideration of claim 1. Furthermore, claims 5, 9-11, and 18 are believed to be allowable for at least the same reasons set forth above with respect to claim 1.

Claims 2-4 and 7-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Gross* in view of *Hansen* as applied to Claims 1, 5, 9-11, and 18 above, and further in view of *Mallinckrodt*. (5,339,330).

Claims 2, 3, 4, 7 and 8 are further limitations of claim 1. The Examiner states that the *Mallinckrodt* reference teaches a demultiplexer. A demultiplexer is taught in the *Mallinckrodt* reference. However, the *Mallinckrodt* reference does not teach that the payload controller of a stratospheric platform comprises a demultiplexer. Further, the *Mallinckrodt* reference does not teach or suggest the elements missing from the other two references as described above with respect to claim 1.

Further, the *Mallinckrodt* reference does not teach or suggest the use of a phased array antenna. Claims 3 and 4 are related to a phased array antenna in that claim 3 recites a "plurality of element control signals" and claim 4 recites "the RF feed is coupled to the elements of the phased array antenna." Thus, these elements are not taught or suggested in the *Mallinckrodt* reference. Applicants therefore respectfully request the Examiner to reconsider claims 2-4.

Claims 6 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Gross* in view of *Hansen* and further in view of *Ide et al.*(6,556,845). Applicants respectfully submit that the *Ide* reference does not teach or suggest the elements missing from claims 1 and 18,

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respectively. Applicants therefore respectfully request the Examiner to reconsider claims 6 and 19.

CONCLUSION

In light of the remarks above, Applicants submit that all objections and rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, the Examiner is respectfully requested to contact the undersigned attorney.

Should any fees be associated with this submission, please charge The DIRECTV Group, Inc. Deposit Account No. 50-0383.

Respectfully submitted,

By: 

Georgann S. Grunebach, Reg. No. 33,179
Attorney for Applicants

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The DIRECTV Group, Inc.
CA / LA1 / A109
P.O. Box 956
2230 East Imperial Highway
El Segundo, CA 90245-0956

Telephone: (310) 964-4615